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memorandum

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to Chehalis River Basin Flood Authority

from ESA Adolfson

subject Decision Support Tool

At the March 19, 2009 Flood Authority meeting, Matt Ely of USGS presented a watershed characterization study for the Chehalis basin being pursued by the Chehalis Basin Partnership. It was envisioned that this study would be expanded to produce a rainfall-runoff model capable of accurately predicting runoff scenarios based on possible precipitation patterns. This potential model would be a Decision Support Tool (DST). The DST model would be a valuable tool in analyzing potential flood control projects. In the Ripe and Ready Studies Package, approved at the April 16, 2009 Flood Authority meeting, the Authority approved support of the DST, with the understanding that it would be funded by other entities. The Authority envisioned that it could be included in the basin-wide General Investigation being undertaken by the Corps of Engineers. After the Ripe and Ready Studies Package was approved, the project underwent a number of changes to its scope and methodology due mainly to funding constraints. The current project that is underway is funded by USGS, the Department of Ecology, and the Corps of Engineers. It more closely resembles the original watershed characterization study and not the Decision Support Tool that would be relevant to flood modeling and prevention.

As part of the current watershed characterization study, USGS has inventoried 350 wells and measured water levels throughout the basin. Future work in the study involves preparation of a scientific report with a characterization of basin hydrogeology and seepage measurements. A groundwater model of the basin is not part of the current scope. However, the current scope is valuable work for water-related efforts in the basin. The current scope of work is consistent with the first steps of the proposed Decision Support Tool, and USGS still hopes to pursue that project in the future should funding become available. Additionally, the current effort has included installation of two new river gauges in the basin, one on Salzer Creek near Centralia and another on Elk Creek near Doty. Data from these gauges should prove useful in flood-related efforts in the basin, and ESA Adolfson has forwarded the information to WEST Consulting for their work on the Early Warning System.

ESA Adolfson recommends that the Flood Authority continue its collaborative relationship with the Chehalis Basin Partnership and consider supporting future phases of this study as they are developed.